neum. In spite of the prematurity and small size of the child (six and one-half pounds), a moderate laceration of the perineum could not be avoided, on account of backward displacement of the head by the narrow pubic arch. Immediately after birth the head was seen to be greatly compressed laterally in its anterior portion, giving it a wedge shape. The soft tissues overlying the frontal region were purple from ecchymosis, due to severe pressure to which it had been subjected by the narrow pubic arch. The shape of the skull rapidly regained its normal contour and color, and the child thrived, being now apparently normal in all respects, although, owing to hypersensitiveness of the mother on the subject, I have not been able to obtain a specimen of the baby's urine for examination.

The mother had a normal convalescence, and has nursed her baby for nine months. After delivery it was found possible to keep the urine almost free from sugar by means of a restricted, low carbohydrate diet, without the use of insulin, but after about two months it became evident that the patient was undernourished and deficient in strenth, so while on a visit to Canada, she, of her own accord, resumed the use of insulin, taking 20 units once daily and increasing the amount of carbohydrates in the diet. She rapidly became strong, gained weight, the skin had a good color, and she appeared and felt herself to be in perfect health. However, on February 17, 1925, she consulted me on account of a return of vulvitis, such as she had when she first came to me. She confessed to having substituted ordinary bread for gluten bread in her diet some time previously, but claimed that urine tests made daily showed no sugar present. She was catheterized at the office and the urine was found heavily loaded with sugar.

A laboratory test on March 7, 1925, showed: Glucose, 7.1 per cent; phenylhydrazine test positive for glucose; blood sugar, 374 mgms. per 100 cc. The specimen for blood-sugar test was taken four hours after breakfast, before which 8 units of insulin were taken. The blood sugar should have reached its lowest point at this time.

The laboratory report makes it clear that we were dealing with true diabetes mellitus and not lactosuria, alimentary glycosuria, nor the so-called renal diabetes which are frequently found in the gravid state.

In summary the case shows:

1. That in a patient who had hydramnios and a premature stillbirth in her first pregnancy, by the aid of insulin it was possible to carry her through a subsequent pregnancy to near term and for her to nurse her child without physical detriment.

2. That with high degree of contraction of the pelvic outlet spontaneous delivery of a premature but vigorous child, in occipito-posterior position, occurred.

We are receiving many compliments on the Medical and Surgical "Conversaziones." Several new ones are being started. If you want to take part in them, tell the editor about it.

TREATMENT OF ACNE VULGARIS

By ERNEST K. STRATTON, M. D., *San Francisco*
(From the Department of Dermatology and Syphilology, Stanford University Medical School)

X-ray is the best therapeutic remedy we have for the permanent cure of acne vulgaris.

The pustules and subcutaneous abscesses should be cleared up surgically and with the aid of vaccines before beginning x-ray therapy.

The amount of x-ray necessary to effect a cure can be greatly reduced if the hyperkeratotic layer of the skin is first removed by peeling.

In order to avoid the serious sequelae which sometimes follow the injudicious use of the x-ray, it is a better policy never to allow the combined fractional dosage to exceed a skin erythema dose, without giving the patient at least a two-week rest period.

FOR convenience and for the purposes of this discussion, acne is presented under three group headings:

Group I includes the juvenile or the most common form of acne vulgaris; Group II, the artificial acnes, caused from both internal and external irritants, such as the ingestion of iodides and bromides and the local applications of or contaminations with the tars, oils, paraffines, etc.; and Group III, acnes of obscure etiology, which do not respond satisfactorily to local treatment, and which occur, as a rule, in individuals over 25 years of age.

Juvenile acne vulgaris, by far the most common type of the disease, comprises some 8 per cent of all skin lesions. It appears first about the age of puberty in certain individuals who have an abnormal skin, as manifested by (a) a dirty yellowish or grayish coloration, (b) by accentuation of the pilo-sebaceous pores, and (c) by a slight thickening of the integument. This kind of a skin not only furnishes the necessary substratum for acne, but associated with it is a marked increase in the sebaceous gland activity. To this whole picture Darier has given the name "kerosis," and he believes these manifestations to be closely related to sexual development, as they are especially noted at two periods of life, namely, at the time of birth, when some infants are covered with a greasy epidermic covering known as vernix caseosa, and then again at puberty, when the genital function is becoming established.

There is formed in the sebaceous follicles, under appropriate conditions, a mixture of sebum and horny cells, cylindrical in shape, whose exposed surfaces become black, not by a deposit of dust as is generally believed, but through the oxidation of the keratin, and thus we have formed the primary lesion of acne vulgaris, commonly known as the blackhead or comedone.

Comedones, in addition to acting as foreign bodies, furnish by the very nature of their composition, an excellent culture media for many bacteria. The one most constantly present is the microbacillus of Sabouraud, which is morphologically identical to the acne bacillus of Unna. Irritants thus activated cause a dilatation of the vessels in the subpapillary zone about the follicles; there is an infiltration of round cells, and the result is the formation of the papule. This process usually goes on to formation of pustules, superficial or deep, depending, as a rule, upon the virulence of the secondary

invading pyogenic organisms. The usual benign character of the suppuration, its freedom from pain and its slow development is most generally due to the non-virulent staphylococcus albus. The different lesions are often associated in the same patient, thus explaining polymorphous acne, consisting of comedones, papules, pustules and, occasionally, subcutaneous abscesses.

The treatment of this type of acne should first of all be directed to the correction of any constitutional disturbance which may play an equally important part, such as habitual constipation, dyspepsia, improper diet. Sugars and starchy foods especially should be reduced because they have a tendency to increase sebaceous secretion.

On the whole, however, the relief of acne depends essentially upon intelligent local treatment. The first step is to get rid of the pustules and subcutaneous abscesses, which is best accomplished by incising them and maintaining drainage with a hygroscopic wet dressing, preferably alkaline. A formula for a satisfactory one is 8 per cent magnesium sulphate or sodium chloride, 8 per cent sodium bicarbonate, and 4 per cent boric acid solution. While many experienced dermatologists doubt the value of vaccine therapy in acne, I believe that it is especially beneficial as an aid in clearing up the pus. The best results are obtained with the use of the stock-mixed staphylococcus vaccines. Results are disappointing, however, in other than the pustular variety, in which I administer routinely this vaccine, as well as the combined acne vaccine.

After the pustules have disappeared there still remain papules, comedones, and a thickened skin to deal with. Therefore, the next indication is to get rid of the thickened skin; this is accomplished by peeling. There are many remedies for the purpose, and they can be incorporated in ointments, pastes, or lotions. Lotions are cleaner, and one consisting of 2 grains of bichloride of mercury, 2½ drams each of salicylic acid and camphor in 3 ounces of alcohol, if applied twice daily after the skin is scrubbed thoroughly with soap and warm water, will cause the removal of the hyperkeratotic condition in from four to seven days.

The skin is then ready for x-ray therapy, and a surprisingly small quantity of it is needed to clear up the papules after the skin is first prepared as indicated. Begin with 10 per cent of an erythema-producing dose and give five weekly treatments, increasing the dosage 5 per cent each week. This is an effective, as well as a safe method of treatment. In the aggregate, such intermittent dosage does not exceed a single skin erythema-producing dose. Should the trouble prove recalcitrant, however, the roentgen treatment can be repeated after an interval of two weeks.

The comedones, which are the only remaining lesions to be dealt with, should be removed mechanically at least once a week by means of a Bronson curette, and followed after one month by .5 to .75 of a skin unit of unfiltered x-ray. This causes an atrophy of the sebaceous glands, and with the diminished output of sebum the comedones will disappear. Lotio alba or boric acid in alcohol is useful locally during the treatment of the papules and comedones.

The scalp should receive attention from the beginning, as it usually presents an oily pityriasis which may be controlled with a 10 per cent sulphur and 5 per cent salicylic acid ointment, together with thorough shampooing. The result is practically permanent, the patient never having more than an occasional isolated lesion thereafter.

Artificial acnes, resulting from the ingestion of large quantities of bromides and iodides, may appear in the usual acne areas. The bromide eruption usually consists of rather large crusted papulo-pustules, which are easily recognized. The iodides, however, cause many small follicular papulo-pustules, sometimes closely resembling a true acne, but the fact that the lesions are all of the same type and not associated with comedones or a seborrhoea indicates inquiry as to possible drug ingestion. Drug eruptions are probably due to the irritation produced during the process of excretion of these chemicals through the sebaceous follicles. The treatment naturally demands the withdrawal of the causative agents. Locally, mild antiseptic lotions are useful, and the intravenous injection of normal salt solution will sometimes hasten their elimination.

The artificial acnes, resulting from various local agents, are produced by the mechanical occlusion of the follicular orifices. Workers in tar, oils, particularly paraffin oil, are prone to develop this type. The lesions may occur anywhere on the body. The treatment consists of thoroughly scrubbing the part with soap and water, the application of a mild antiseptic and soothing paste, and by protecting the skin from future exposures.

Finally, there is a group of acnes in which the cause is difficult to locate. Fortunately, they are not as numerous as are the other types, but after having treated some of them locally, as hereinbefore outlined, for periods of several weeks without obtaining the desired results, and then seeing them clear up immediately on the removal of an infected ovary, appendix, tonsils or teeth, I then realized that, even in their beginnings, they had not presented the classical picture of acne vulgaris. Such atypical acne is seen, as a rule, in women over 25 years of age. Usually the eruption is more or less limited in extent, and either localized on the chin—a very favorite site—or to circumscribed areas on both cheeks. These patients require certain aid by local treatment, but I believe their permanent cure depends on the removal of focal infections, endocrine imbalance or some other chronic condition which may be causing a reflex flushing of the face, follicular congestion and atony of the skin, all of which finally lead to seborrhoea, the formation of comedones, and ultimately to the development of acne lesions.

CONCLUSIONS

1. X-ray is the best therapeutic remedy we have for the permanent cure of acne vulgaris.

2. The pustules and subcutaneous abscesses should be cleared up surgically and with the aid of vaccines before beginning x-ray therapy.

3. The amount of x-ray necessary to effect a cure can be greatly reduced, if the hyperkeratotic layer of the skin is first removed by peeling.

4. In order to avoid the serious sequelae which

sometimes follow the injudicious use of the x-ray, it is a better policy never to allow the combined fractional dosage to exceed a skin erythema dose without giving the patient at least a two-week rest period.

490 Post Street.

SOME PROBLEMS IN THE MANAGEMENT OF TUMORS OF THE URINARY BLADDER

By PAUL A. FERRIER, M. D., *Pasadena*

Papillomas should be fulgurated.

Malignant papillomas should be given a trial with fulguration and radium implantation through the cystoscope.

Papillomas which do not respond to the above procedure, multiple or extensive papillomas, those around the bladder neck, cases with uncontrollable bleeding or intolerant to cystoscopy should be treated by open operation.

Small cancers, favorably located, should have a cautery excision with meticulous care to avoid implants.

Multiple cancers confined to the bladder, especially if they involve the sphincter, call for total cystectomy.

Radium alone implanted through the cystoscope has had many apparent cures and is worthy of further trial in the hands of those who are prepared to implant needles accurately throughout the growth.

Deep x-ray should cover the regional lymph nodes in every cancer of the bladder.

Manifestly hopeless cases should not be tortured by ineffective measures. Cystostomy, nephrostomy or nothing.

Large cancers, having a reasonable amount of normal bladder and sphincter and one uninvolved meatus, should be removed by diathermy, followed by implantation of radium needles, through every cubic centimeter of tumor base, screened radium topically, supplemented by deep x-ray therapy of the regional lymph nodes. This method should supplant extensive resections and is, I believe, the greatest recent advance in the treatment of extensive cancers of the bladder.

DISCUSSION *by Wirt B. Dakin, Los Angeles; Granville MacGowan, Los Angeles; R. L. Rigdon, San Francisco; Frank Hinman, San Francisco.*

GREAT advances have been made in the treatment of tumors of the urinary bladder—fulguration, radium, improved operative technique, deep x-ray therapy, diathermy. This discussion is an attempt to evaluate available therapeutic procedures in the light of pathology and accumulated clinical data, so that the best procedure may be adopted for each individual case.

The etiology is unknown. Analine workers show a higher incidence. Maude Hamilton attributes this to arsenic. Extrophic bladders are more liable to cancer, probably from embryologic fault. Chronic irritation from stone or infection does not seem to play a part.

We adopt Geraghty's classification:

Epithelial	Papilloma	Benign
		Malignant
	Adenoma	
	Cysts	
	Carcinoma	Papillary
		Squamous
		Schirrous
		Adeno
Connective Tissue	Sarcoma	
	Myxoma	
	Fibromyoma	
	Fibroma	
	Angioma	
Muscles	Myoma	
Heterotopic	Rhabdomyoma	
	Hydatic cysts	
	Dermoid cysts	
	Chondroma	
	Cholesteatoma	

Granulomas and syphilomas must be excluded. Also a villous disease in which delicate streamers arise without pedicle directly from the mucosa. It has been associated with tuberculosis, has been cured by curettage, and is evidently inflammatory.

Epithelial tumors comprise nine-tenths of bladder neoplasms. The great majority of these are papillary or schirrous. Adeno-carcinoma and squamous cell carcinoma are rare and malignant. All are familiar with the difficulty in determining the malignancy of papillary tumors by microscopic diagnosis. Structurally the benign papilloma consists of blood vessels in a branching fibrous stroma, covered with several layers of long-processed, oval, regularly arranged cells, surfaced with normal transitional bladder epithelium. Any irregularity in the size, shape, staining qualities of these cells, the presence of multi-nucleated cells, numerous mitoses with nuclei rich in chromatin, are signs of malignancy, even without a break in the basement membrane. From the fact that ten areas from a tumor may be normal and the eleventh show such a picture, the pathologist's difficulty is obvious. So much so that clinical and cystoscopic data are often more reliable.

The following characters indicate malignancy:

1. A fusing or clubbing or tendency to ulcerate of the papillary projections.
2. Edema, dilated vessels, velvety patches or submucous nodules about the margin.
3. A sessile, lobulated, fissured or ulcerated tumor.
4. Very large or multiple involvement with necrosis and urinary incrustation.
5. Infiltration of the bladder wall, demonstrable by vaginal or rectal palpation or cystogram with air or opaque medium.
6. An intractable cystitis in the presence of tumor.
7. A poor response to fulguration.
8. Metastasis.
9. Finally, microscopic diagnosis of passed or excised tissue.

Metastasis is generally late. Extensive involvement may be found at autopsy, as in two of this series, without demonstrable metastasis. On the other hand, Geraghty reports four cases which showed distant metastases before the bladder wall was involved. The sacral glands are usually first involved, but the bones may suffer early, as in cancer of the prostate. Lower reports metastasis to the brain. Tumors of the anterior wall are more likely to recur than those of the base. Extension to the vesicles and prostate is early, but other extension is usually late.

All papillomas sooner or later become malignant. They may exist innocently for twenty-five years or show malignant histology for years, without infil-